



## 802.11g Wireless PCI Adapter

MODEL: AWD154B



## User Manual

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# Chapter 1 Introduction

## 1.1 Welcome

Thank you for purchasing AZiO AWD154B-802.11g wireless PCI adapter. AWD154B connects you with 802.11g networks at up to 54Mbps. And for added versatility, it can also interoperate with all network protocols: b/g/n products found in homes, businesses, and public wireless hotspots around the country. Soft AP supported by AWD154B can help you establish wireless LAN networking with low cost. WPS (Wi-Fi Protected Setup) simplify the security setup and management of Wi-Fi networks. Supports WMM for Multimedia Applications with Quality of Service in Wi-Fi® Networks. Especially supporting PS3, PSP, Nintendo DS and Wii connections with XLink Kai software will be your best choice to enjoy on-line gaming.

## 1.2 Product Feature

- Complies with IEEE 802.11g and IEEE 802.11b standards
- Compliant with PCI 2.2 Standard
- Provides up to 54Mbps transmission rate and up to 300 meters transmission distance *\*Real world distances will vary due to environment*
- Auto-detects and changes the network transmission rate
- Provides two work modes: Infrastructure and Ad-Hoc
- Supports Soft AP to establish your wireless LAN networking
- supports PS3, PSP, Wii and Nintendo DS connecting with Internet and XLink Kai to enjoy on-line gaming
- Supports 64/128-bit WEP, WPA, WPA2 encryption methods and 802.1x security authentication standard
- Supports Wireless Roaming function
- WPS (Wi-Fi Protected Setup) simplify the security setup and management of Wi-Fi networks.
- Supports WMM for Multimedia Applications with Quality of Service in Wi-Fi® Networks
- Supports Windows 2000 / XP / 2003 / Vista / 7

## 1.3 Contents of Package

- One AWD154B
- One Installation CD w/User Manual
- One Quick Installation Guide

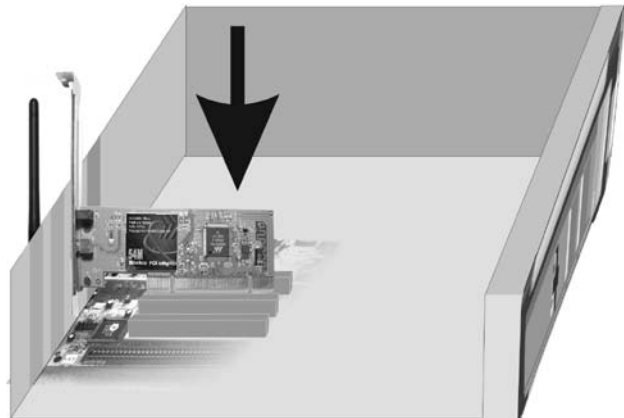
Contact your local authorized reseller or the store purchased from for any items damaged and/or missing.

## Chapter 2 Installation

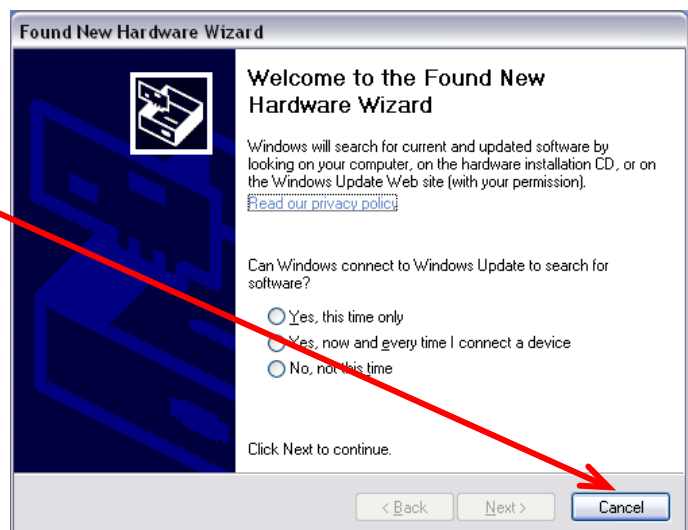
### NOTE:

1. For future drive updates, please visit our website at [www.aziocorp.com](http://www.aziocorp.com)
2. Snap-shot screens of the following installation procedure are based on Windows XP. Installation procedures will be similar for other windows operating systems.

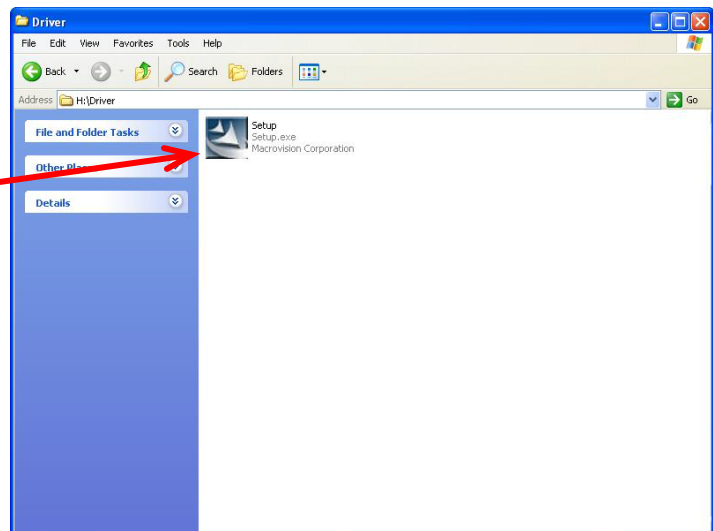
1. Install AWD154B into your computer as following steps:
  - Open your PC case and locate an available PCI on the motherboard.
  - Slide AWD154B into the PCI slot. Make sure that all of its pins are touching the slot's contacts. You may have to apply a bit of pressure to slide AWD154B all the way in. after it is firmly in place, secure its fastening tab to your PC's chassis with a mounting screw. Then close your PC.
  - Power on the PC.



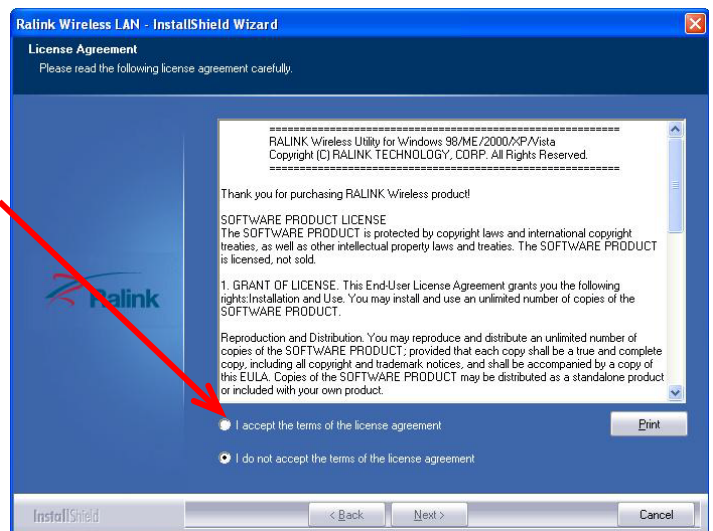
2. Select **Cancel** when **Found New Hardware** window appears.



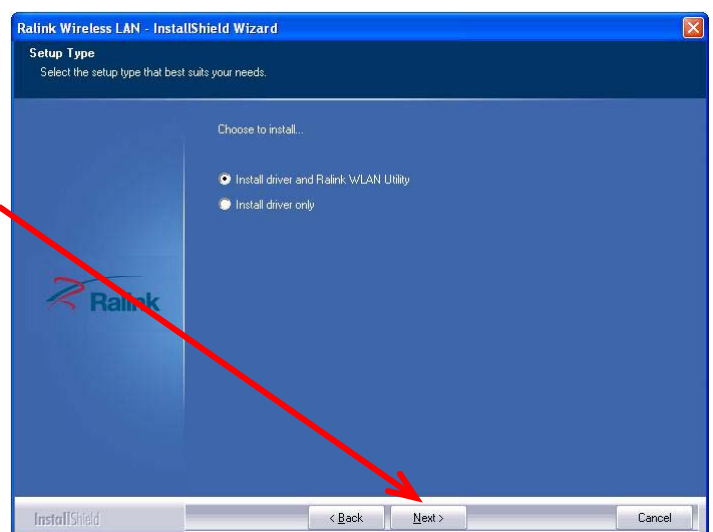
3. Insert Installation CD to your CD-ROM drive. Browse CD and double-click **Setup.exe** in Driver folder to execute it. The wizard will run and install all necessary files to your computer automatically.



4. Click **Next** to accept the Agreement. Or click **Cancel** to cancel the installation.

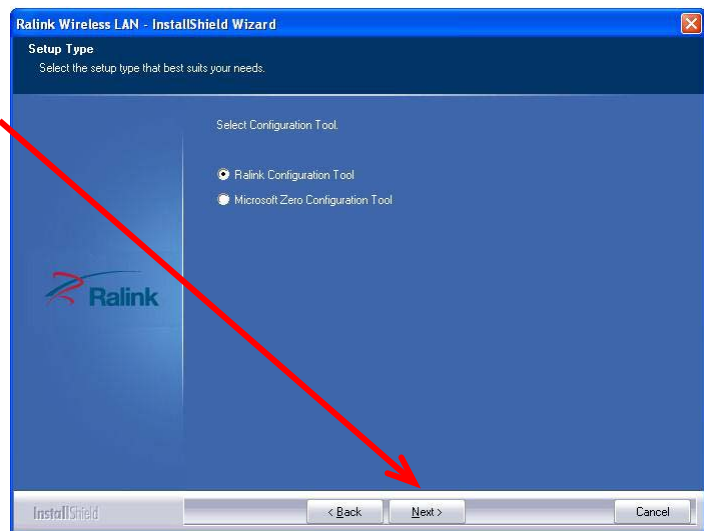


5. Select **Install Driver Only** for most users. But if using WinXP SP2 & older operating systems, select **Ralink WLAN Utility** then click **Next**.

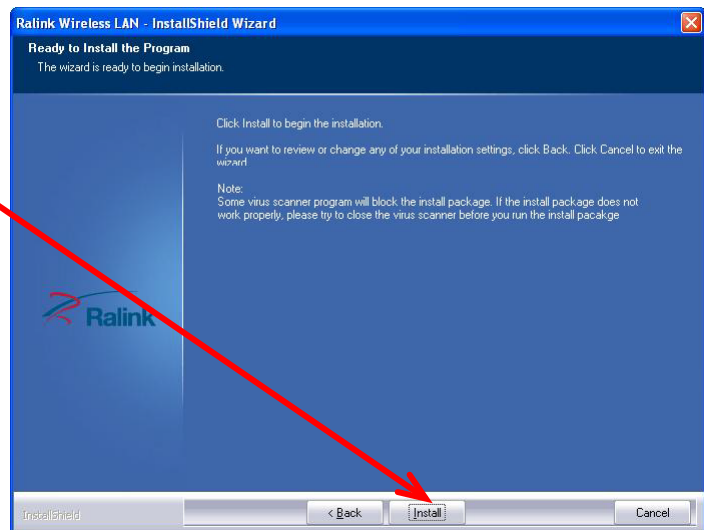


6. Select **Microsoft Zero Configuration Tool** or **Ralink Configuration Tool** (for advanced features) then click **Next**.

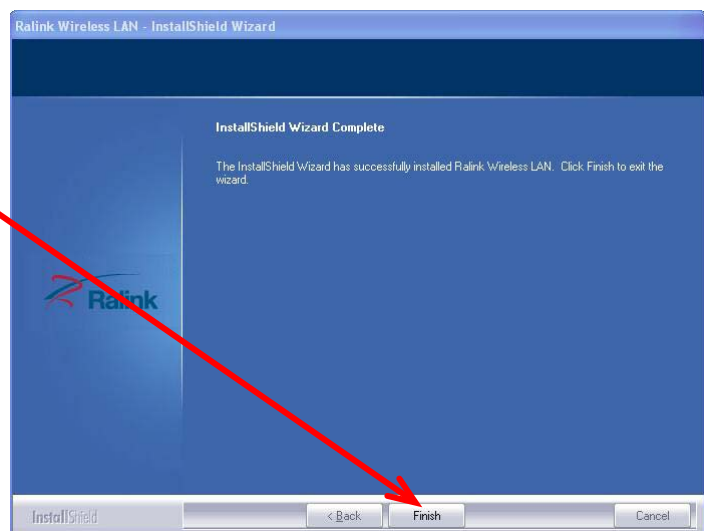
- a. It's recommended to select **Ralink Configuration Tool**, for older operating systems which provides it full access to all current security protocols.
- b. It is recommended for most users to use the wireless configuration tool provided by Windows XP or Vista, please select **Microsoft Zero Configuration Tool**.




7. Click **Install** to start installation. Or click **Cancel** to cancel the installation.



8. Click **Finish** to complete the software installation.



## Chapter 3 Configuration


If you choose to install the Ralink Configuration Tool you will see a tray icon  appear in your system tray at the bottom of the screen after the software and hardware installation has completed successfully.

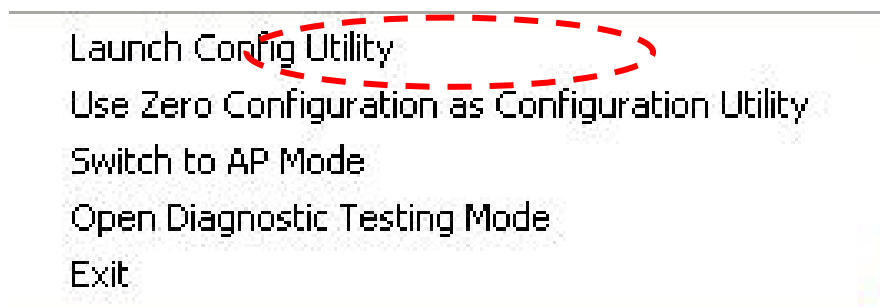
The following section details use of this configuration utility and how to access it's more advanced features. If you selected Microsoft Zero Configuration Tool or 'Driver Only' during the installation process, you may now use your wireless card like normal or if needed refer to **Chapter 3.3** for instruction on how to use the Microsoft Zero Configuration Tool.

### 3.1 Station Mode

Station Mode is the default access mode for AWD154B.

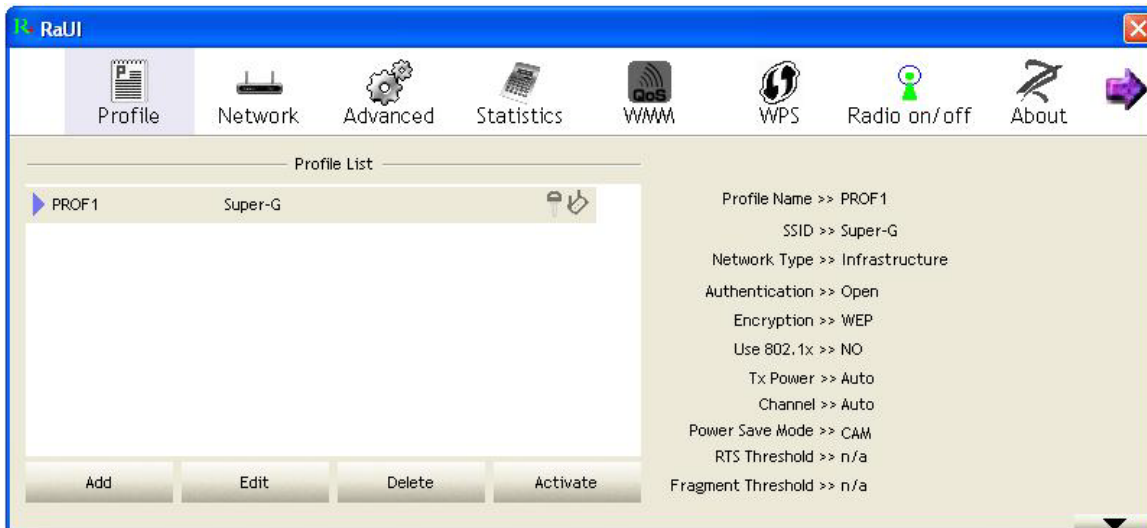
In this mode, AWD154B serves as a client to receive the wireless signals to access the Internet.

Double-click the tray icon  to launch the configuration utility.  
Or right click the tray icon and select **Launch Config Utility**.



### 3.1.1 Profile

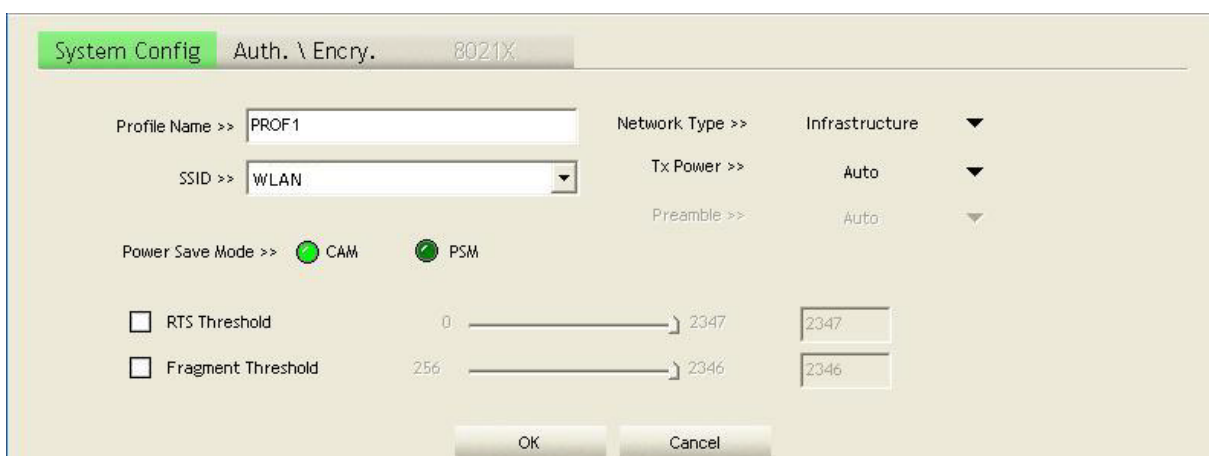
Profile can keep your favorite wireless setting among your home, office, and other public hotspot. You may save multiple profiles and activate the one at your preference.



- **Add:** to create a new profile
- **Edit:** to edit/modify/change parameter of an existing profile
- **Delete:** to delete an existing profile
- **Activate:** to make an existing profile become active and to connect

#### 3.1.1.1 Add/Edit Profile

##### a. System Configuration



- **Power Save Mode:**
  - CAM** (Constantly Awake Mode) – AWD154B will stay power-ON as long as the computer is connected to a power outlet.
  - PSM** (Power Saving Mode) – AWD154B will hibernate when the computer is hibernating.



- **Network Type:**
  - a. **Infrastructure** – A wireless Router and/or Access Point is required.
  - b. **Ad-hoc** – Peer-to-Peer network, no base station required.
- **TX Power:**  
Amount of transmit power used by the radio transceiver to send out signal. User can choose different value in the drop down menu
- **Preamble:**  
Only available under Ad-hoc mode. Value can be chose from Auto, Long, or Short
- **Threshold:**  
Frame size when RTS/CTS handshake performs before attempt to transmit.
  - a. **RTS Threshold:** Default value = 2347
  - b. **Fragment Threshold:** Default value = 2346

## b. Authentication and Encryption

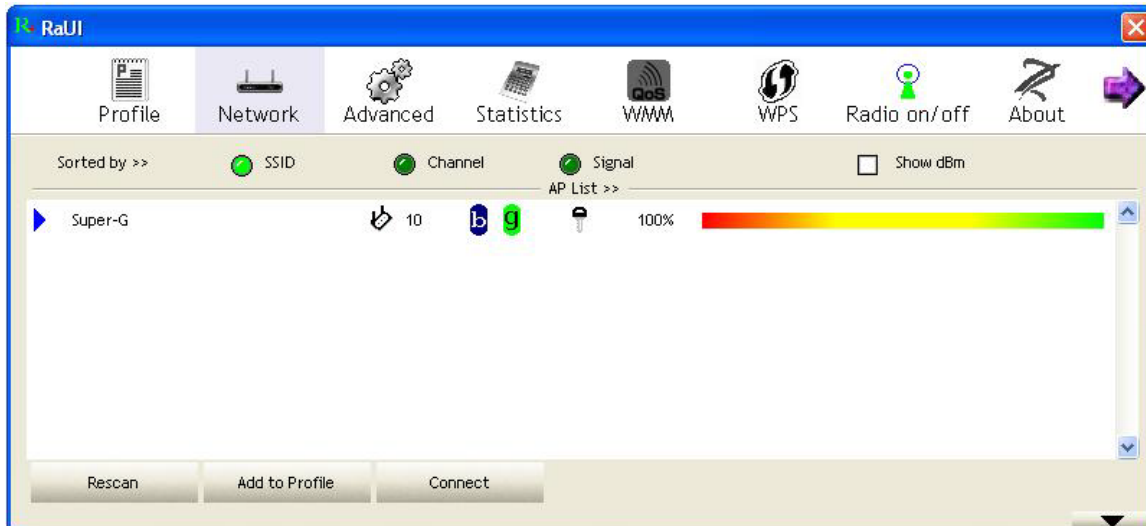
- **Authentication:** Open, Shared, Leap, WPA, WPA-PSK, WPA2 and WPA2-PSK.
- **Encryption:** Algorithm used in BSS or IBSS, WEP, TKIP, AES, and None

## c. 802.1X

### 3.1.2 Network

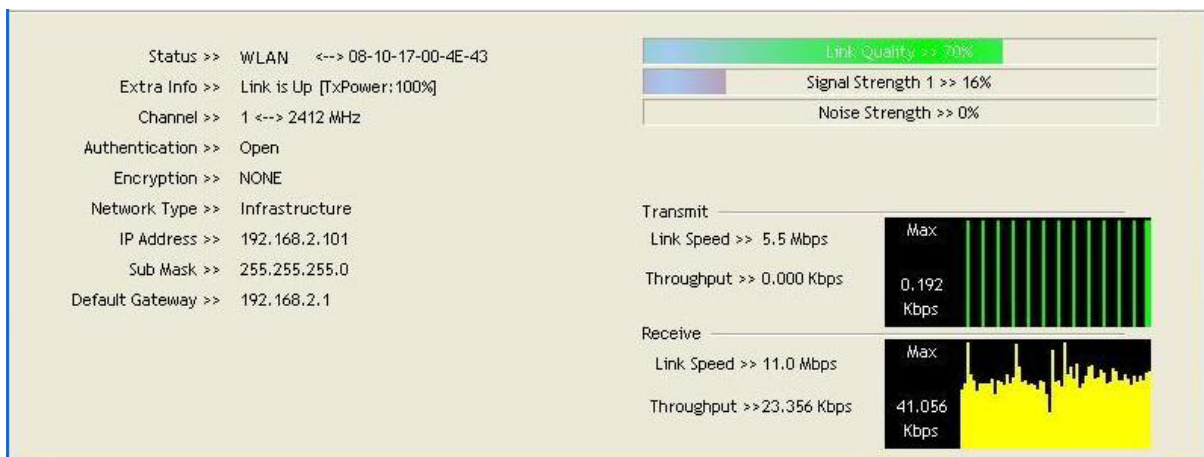
Under Network tab, you will know information of all surrounding wireless networks from the last scan.

Click **Rescan** to update and refresh.



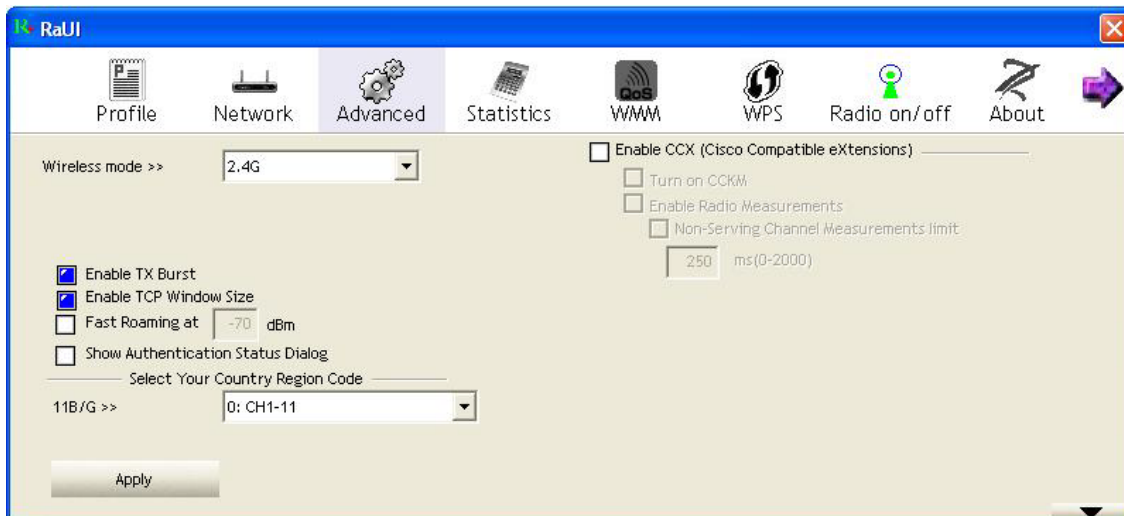
### 3.1.3 Link Status

Link status page shows detail information about the current connection.



### 3.1.4 Advanced

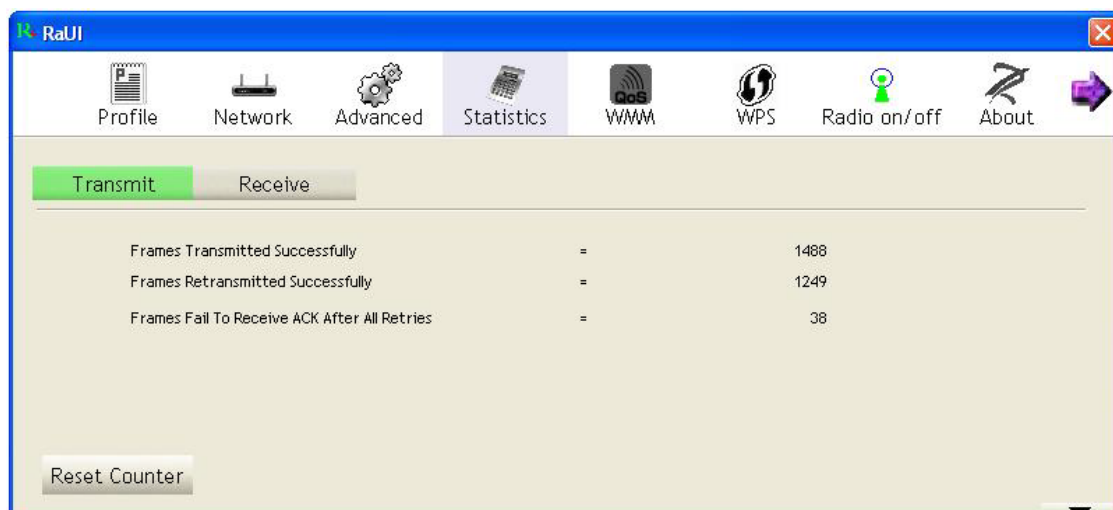
The Advanced tab shows Advance function of UI



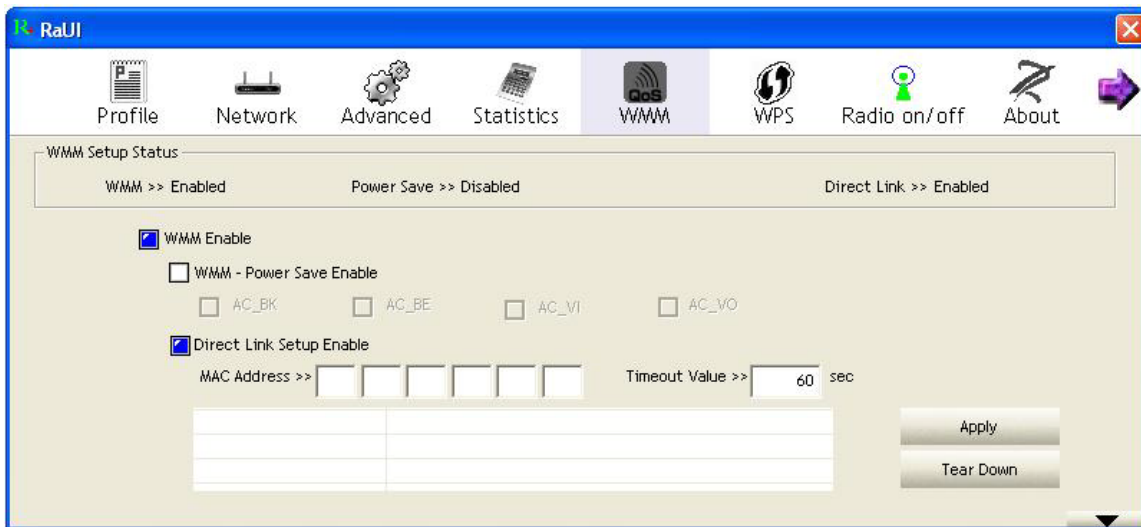
- **Enable Tx Burst:** Ralink's proprietary frame burst mode. Suggest using with an Access Point that has the same technology.
- **Enable TCP Window Size:** Check this box and the configuration utility will adjust TCP window size automatically to get better performance.
- **Fast Roaming at:** Fast to roaming, setup by transmitting power
- **Enable CCX(Cisco Compatible eXtensions):**
  - a. **LEAP – Turn on CCKM**
  - b. **Enable Radio Measurement:** channel measures every 0~2000 milliseconds

### 3.1.5 Statistics

Statistics tab displays the detail counter information based on 802.11 MIB counters. This page translates that MIB counters into a format easier for user to understand.



### 3.1.6 WMM

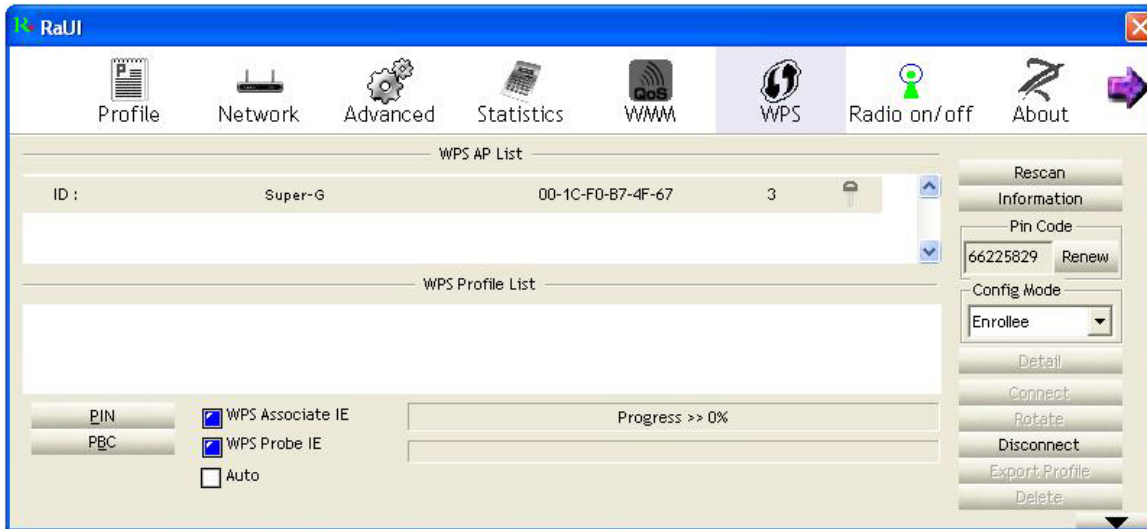


- **WMM Enable:** Enable Wi-Fi Multi-Media
- **WMM - Power Save Enable:** Enable WMM Power Save
- **Direct Link Setup Enable:** Enable DLS (Direct Link Setup). This function will greatly improve the data transfer rate between WMM-enabled wireless devices.
  - a. **MAC Address:** Input the MAC address of another WMM-enabled wireless device you wish to establish a direct link.
  - b. **Timeout Value:** must be between 0~65535 in integer. If the value is zero represents it always connects. Default value of Timeout Value is 60 seconds.
  - c. **Tear Down:** If you want to remove a specific wireless device from DLS table, select the device and click this button to remove it.

### 3.1.7 WPS

WPS tab supports the configuration setup using PIN configuration method or PBC configuration method.

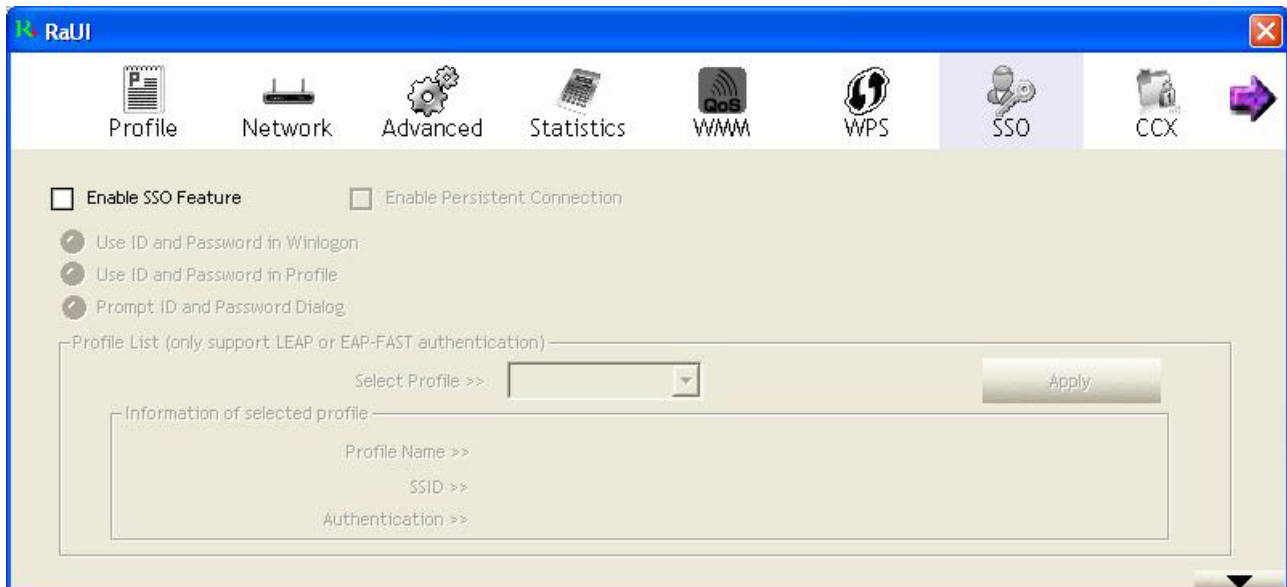
WPS (Wi-Fi Protected Setup) simplify the security setup and management of Wi-Fi networks.



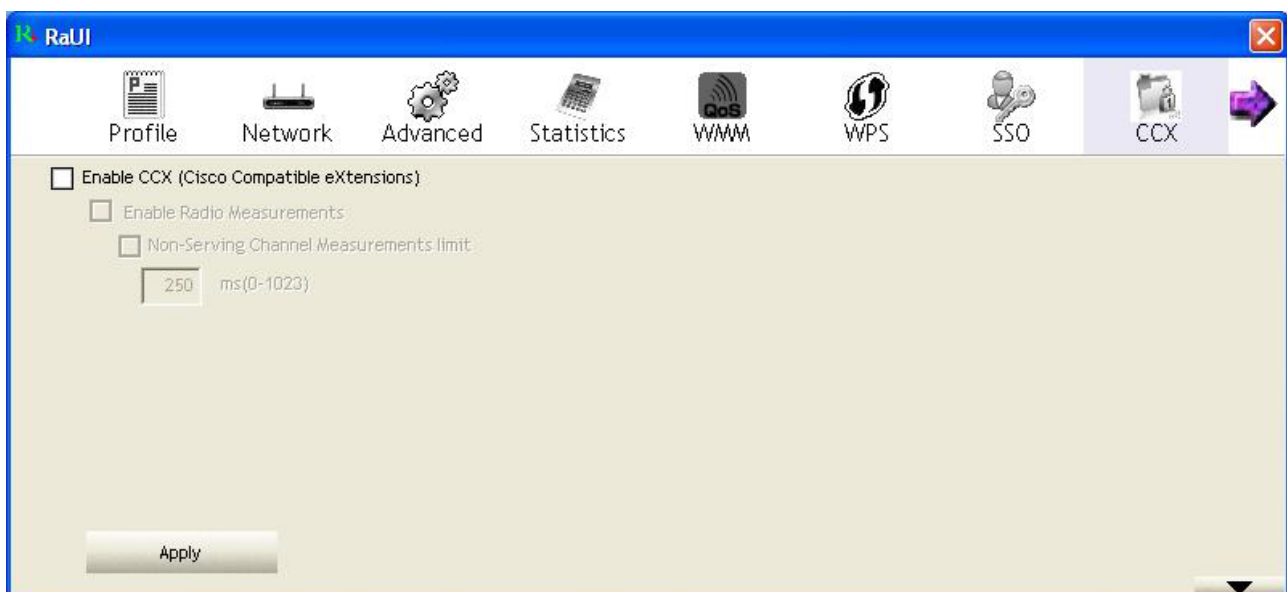
- **PIN:** Enter the Pin code and click **PIN** to automatically connect AWD154B with wireless devices around.
- **PBC:** Click **PBC** to complete auto-check and connections between AWD154B and other wireless device.
- **Renew:** Click to update the Pin code.
- **Rescan:** Update information on surrounding wireless network.
- **Connect:** click to connect the WPS wireless network.
- **Disconnect:** to disconnect the connected wireless network.

### 3.1.8 SSO

SSO (Backup Exec for Windows servers SAN Shared Storage Option) is a strong LAN-free backup solution.



### 3.1.9 CCX

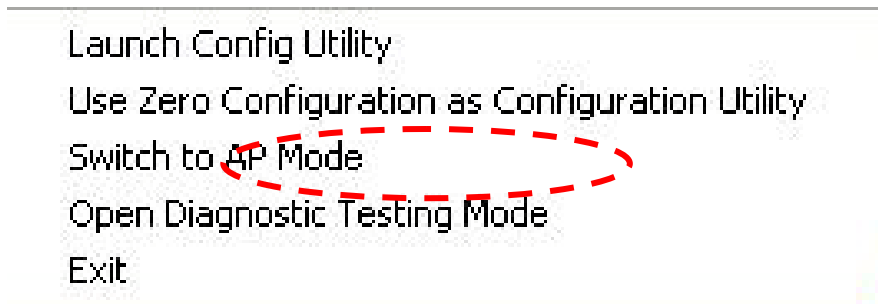


- **Enable CCX(Cisco Compatible eXtensions):**
  - **Enable Radio Measurement:** channel measures every 0~1023 milliseconds

## 3.2 AP Mode

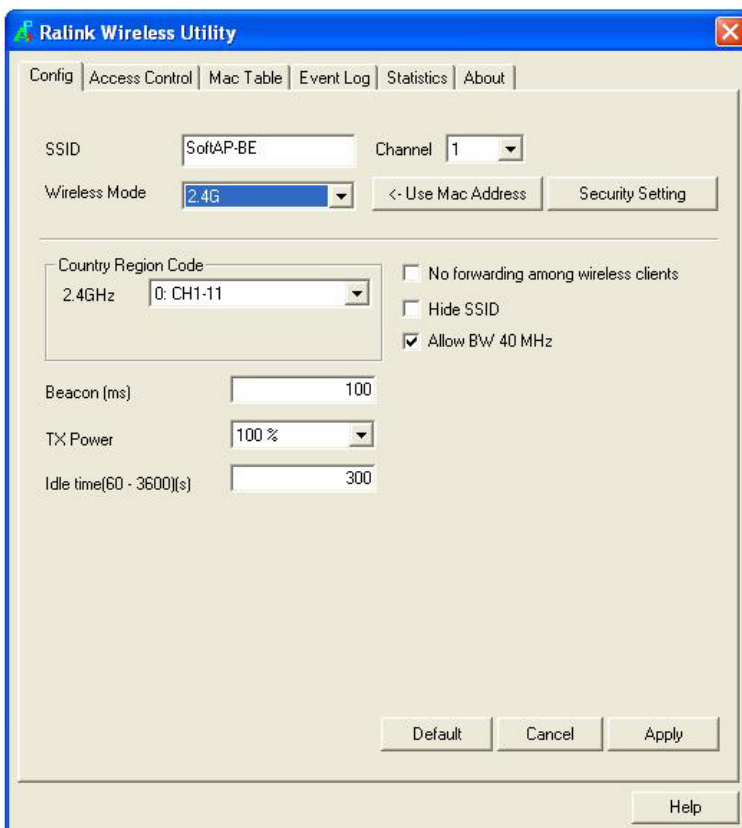
AWD154B also can serve as an access point to transmit wireless signals and create wireless network, allowing other wireless clients to access the network.

Right-click the tray icon  and select **Switch to AP Mode**.

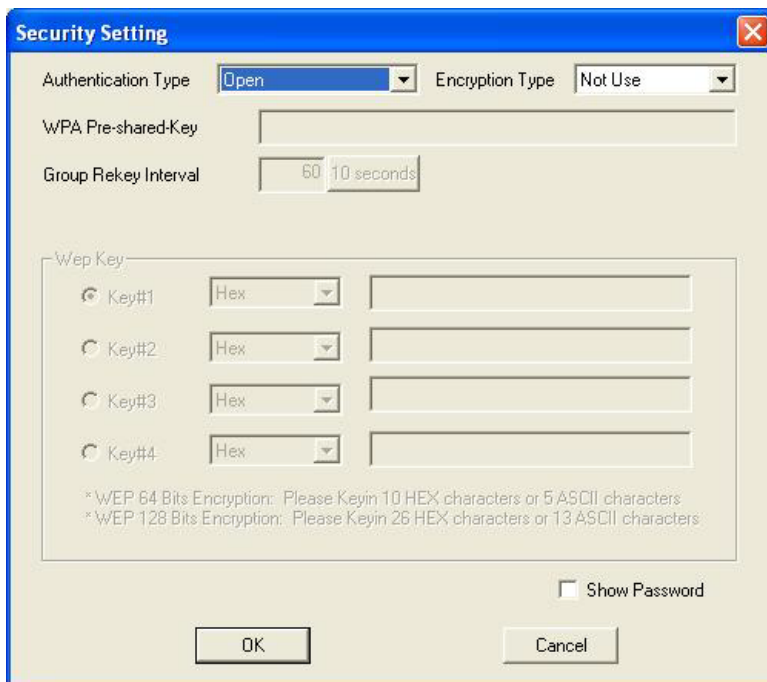


### 3.2.1 Configuration

In soft AP configuration Utility page, you can make some basic configurations, such as wireless network name, mode, channel and authentication.



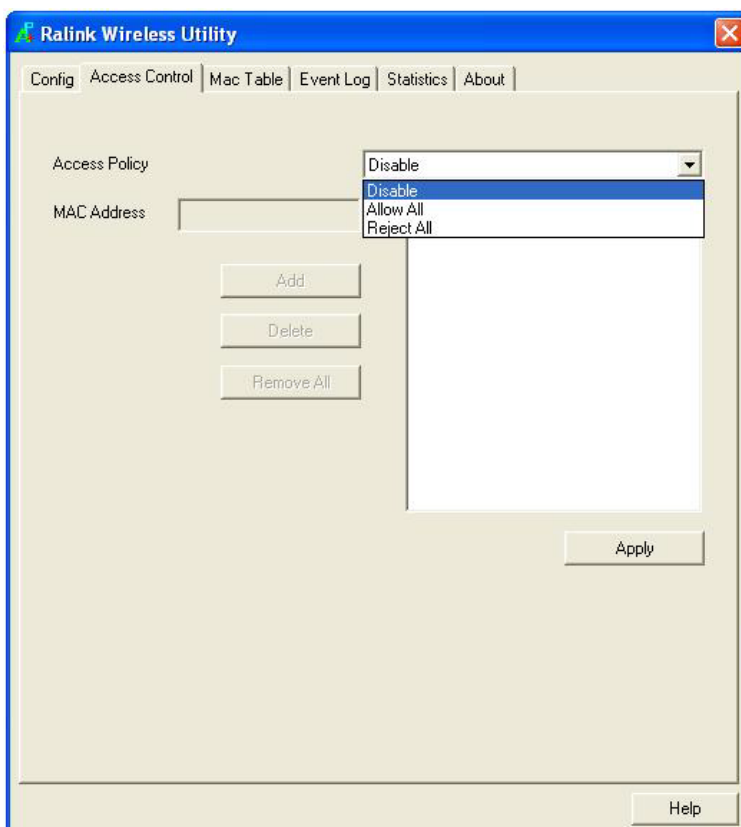
Click **Security Setting** button to make different security configurations of wireless communication, and you can choose the authentication type or encryption type.

**Note:**

1. The Hex characters include 0~9 numbers and a~f letters.
2. ASCII characters include any numbers/letters and characters.

**3.2.2 Access Control**

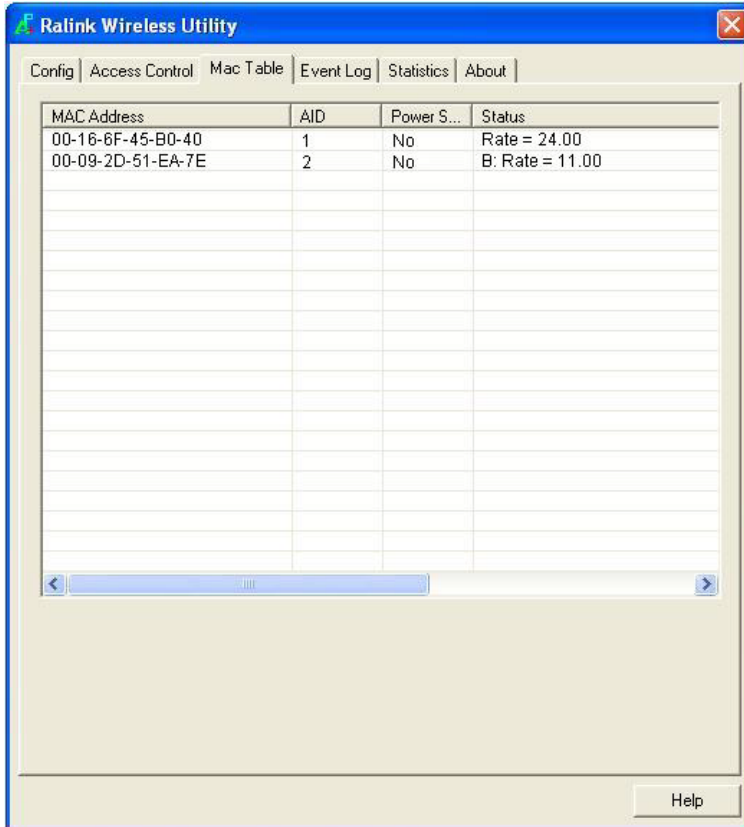
Choose **Access Control** tab to start MAC control. Access control includes **Allow All** and **Reject All**. After editing the MAC address access list, only the MAC in the Allow All list could access the Soft AP.






### 3.2.3 MAC Table

MAC Table page shows the information of the wireless devices accessed to this soft AP.




### 3.2.4 Switch to Working Station mode

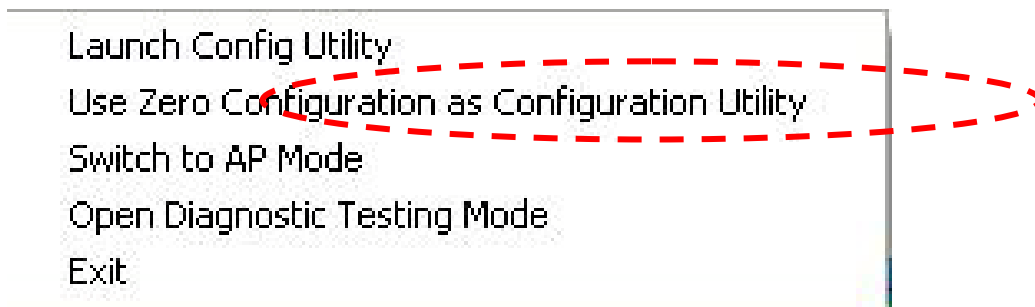
In the Soft AP mode, right-click the icon  in the system tray and choose **Switch to Station Mode**, then AWD154B is switching to working station mode with an interface of working station.




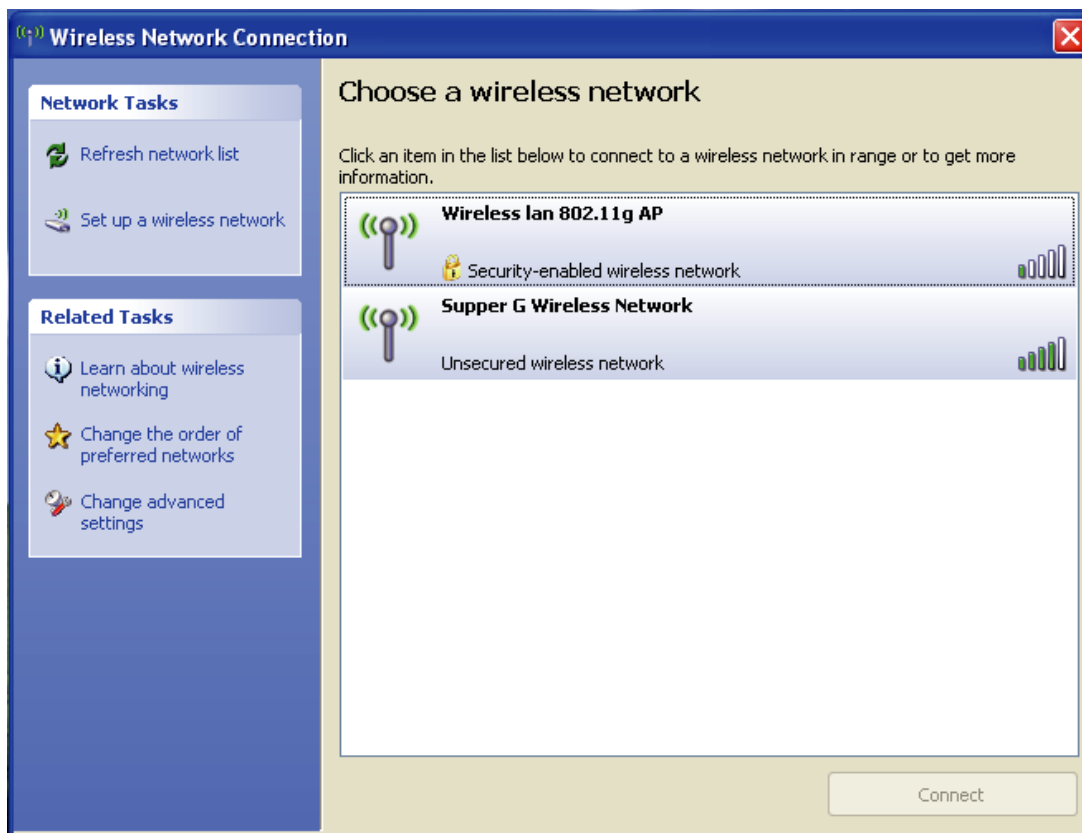
### 3.3 Use Zero Configuration

Windows XP and Vista has a built-in wireless network configuration utility "Windows Zero Configuration" (WZC). It is a built in service to configure your wireless clients from Windows

1. Start using WZC, right click the tray icon  and select **Use Zero Configuration as Configuration utility**.

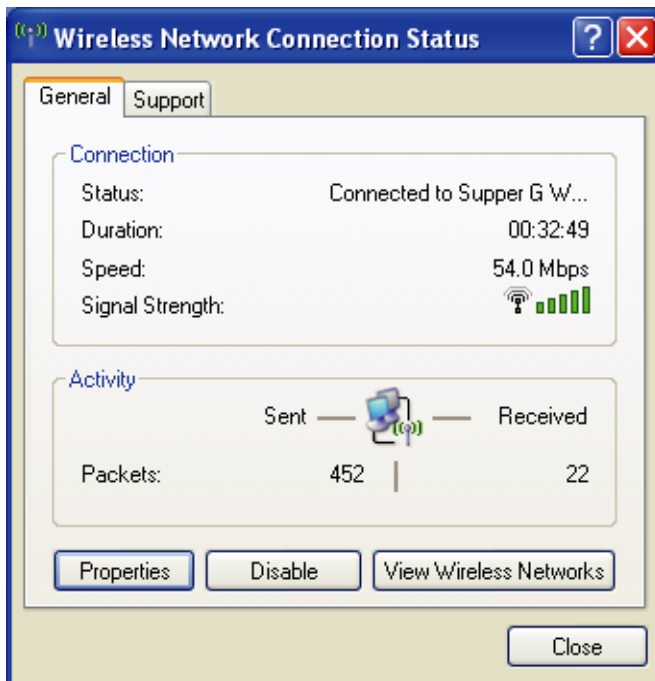



2. The windows wireless network connection will appear. Double click the wireless network icon  on the system tray to check the wireless network, choose the network and click **Connect** to setup the association.

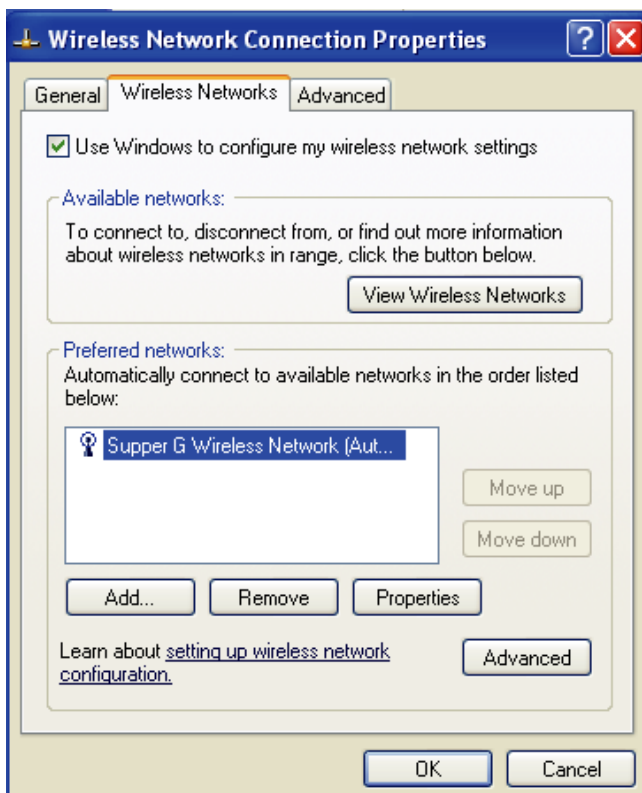


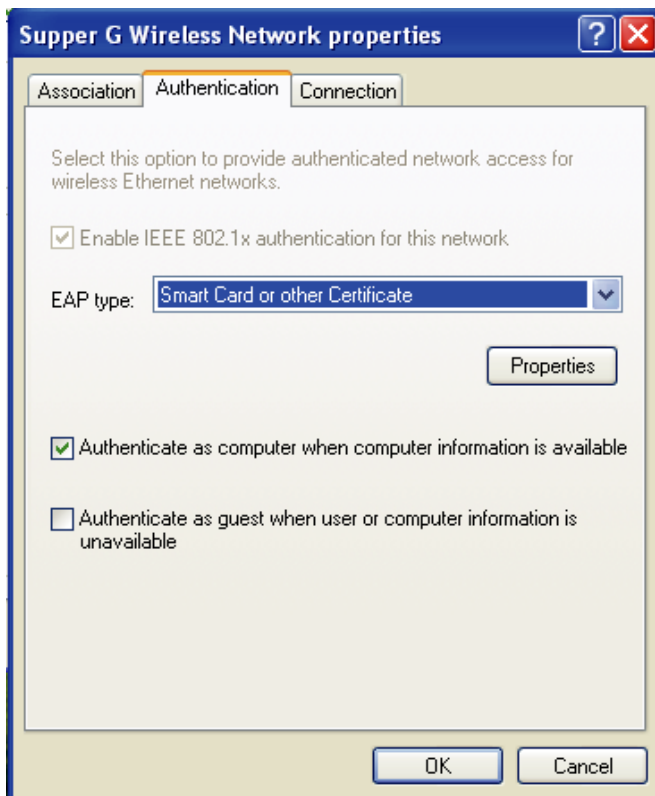
3. If your wireless router has been encrypted, there will be a window appeared for input the key. Please input the key and click **Connect**, then the connection connect.

- To configure the wireless connect properties, please right click the wireless icon in the system tray and choose **Status** to open the page **Wireless Network Connection Status**.

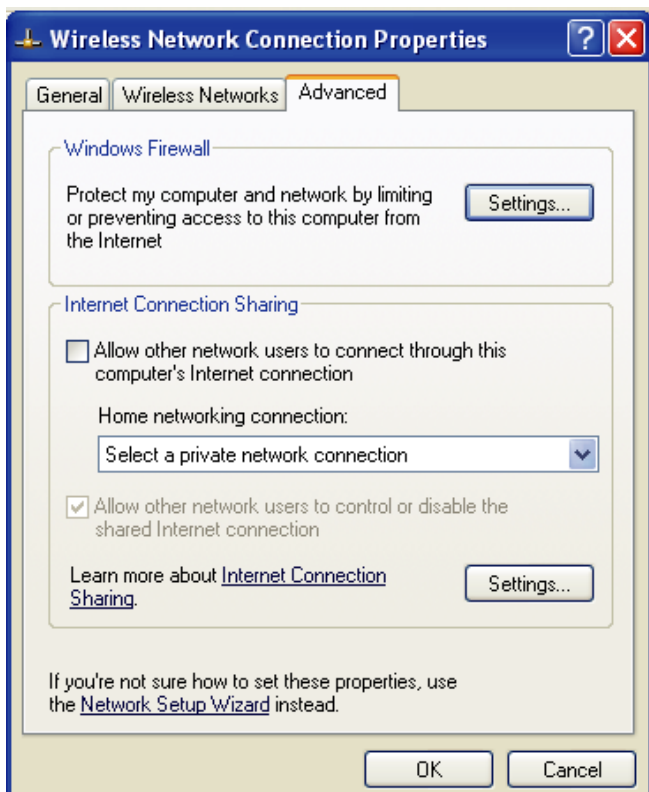


- Click **Properties** button in **General** page and choose the tab **Wireless Networks** to add the **SSID** of available network by clicking **Add**, if there are several available networks, linking priority could be configured by the button **Move up** and **Move down**. The icon  shows the current linked AP. Click **Properties** to configure authentication of wireless connection.





6. **Advanced** page configures firewall and connection sharing.



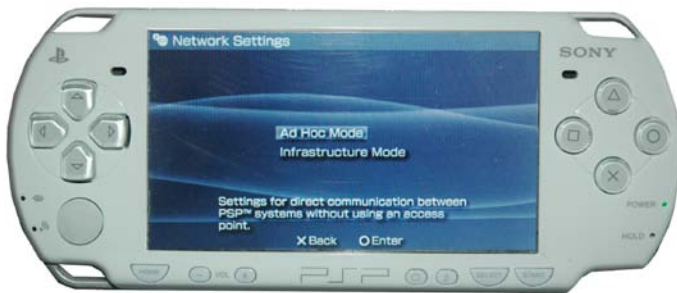
## Chapter 4 How to connect with PSP

### 4.1 Configure PSP with Ad-Hoc mode

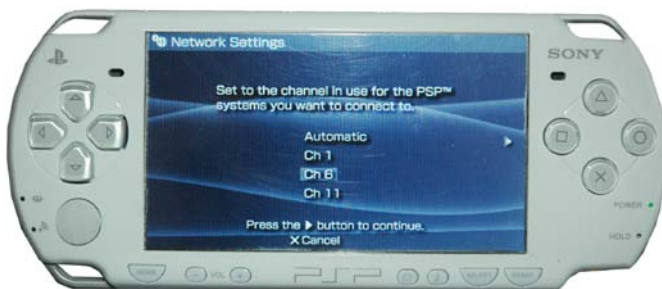
1. Select Network Settings on PSP



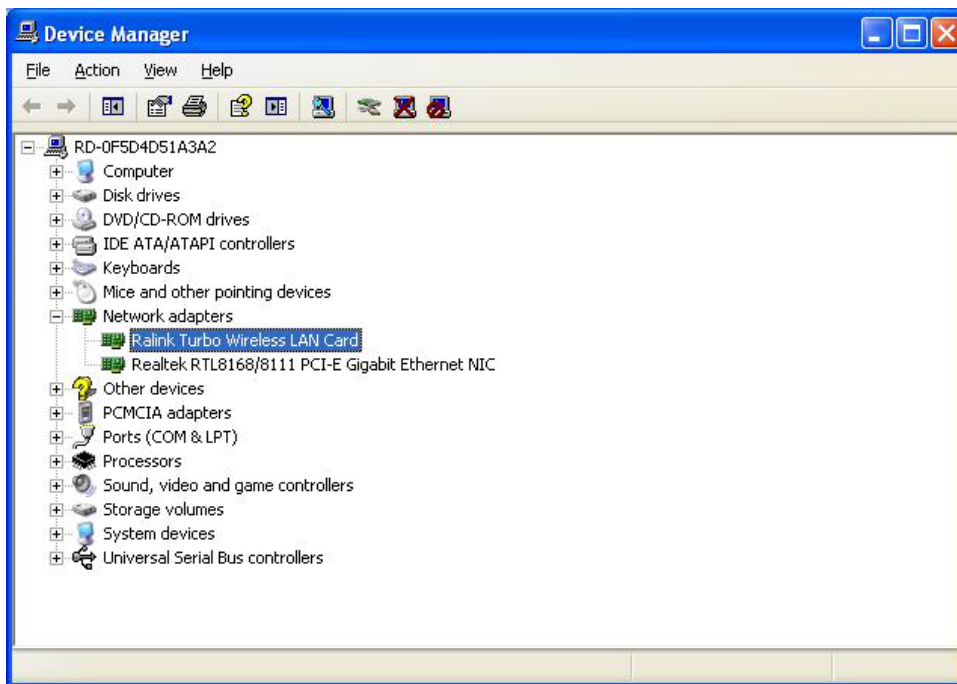
2. Select Ad-Hoc mode on PSP



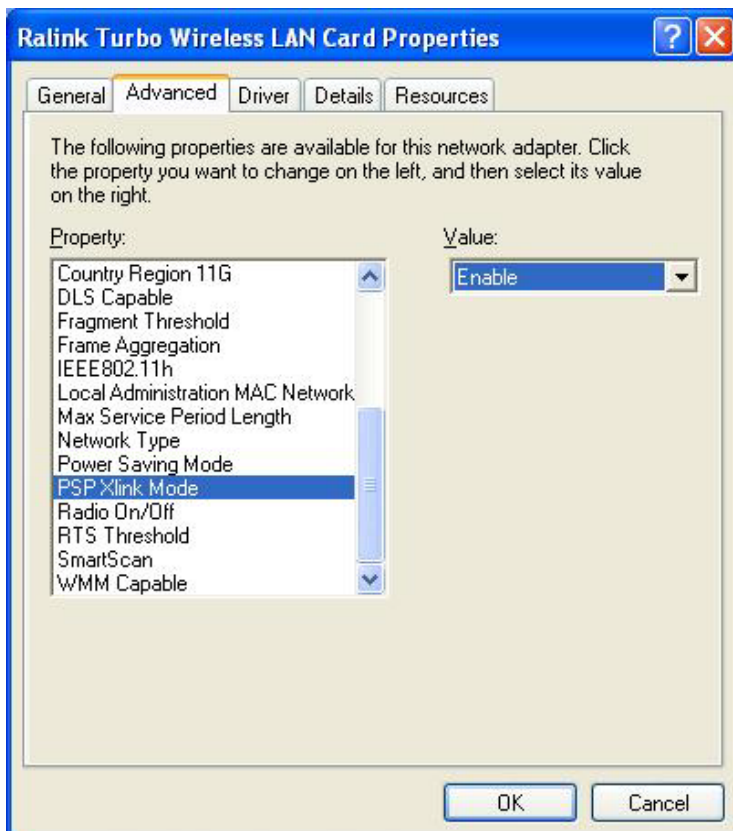
3. Select Channel on PSP



4. Select **Start** → **Control Panel** → double-click **System** icon → select **Hardware** tab → click **Device Manager** button → select **AWD154B (Ralink Turbo Wireless LAN Card)** list in Network adapters



5. Double-click **Ralink Turbo Wireless LAN Card** to configure properties → select **Advanced** tab → select **PSP XLink Mode** list in Property and choose **Enable** from Value drop-down menu.



## 4.2 Configure XLink Kai

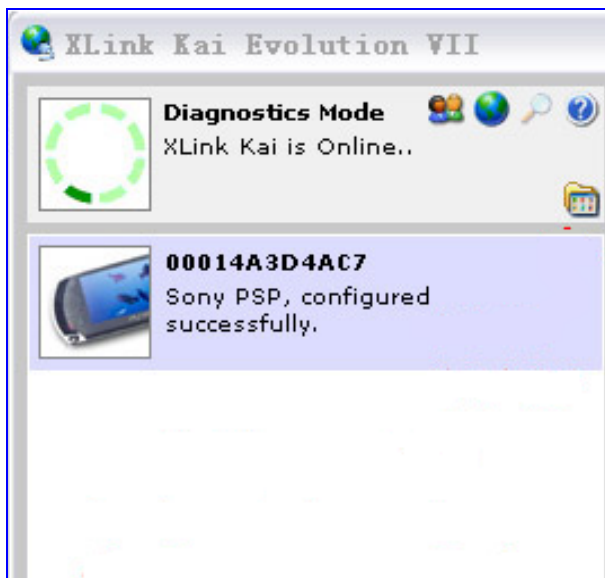
XLink Kai is a global gaming network - bringing together Xbox, Playstation, Gamecube and PSP users, in one integrated community. It is software running on your PC or Macintosh that allows you to play system-link enabled games online

for free.

Select **Start** → **All programs** → **XLink Kai Evolution VII** → **Start Kai Config** to configure the user name, password and other parameters.



**Login XLink Kai:** Select **Start** → **All programs** → **XLink Kai Evolution VII** → **Start Kai**. PSP will connect with XLink Kai automatically. The following window will indicate the connection is established well now.



## Chapter 5 Product Specifications

<b>Standard</b>	IEEE 802.11b, IEEE 802.11g
<b>Frequency Band</b>	2.4GHz ~ 2.4835GHz
<b>Spread Spectrum</b>	DSSS, OFDM
<b>Modulation Method</b>	BPSK, QPSK, CCK, QAM and OFDM
<b>Data Rate</b>	11g: 54/48/36/24/18/12/9/6Mbps 11b: 11/5.5/2/1Mbps
<b>RF Power</b>	54Mbps : 15dBm $\pm$ 2dBm 11Mbps : 16dBm ~ 18dBm
<b>Channels</b>	11 Channels (USA, Canada) 13 Channels (Europe) 14 Channels (Japan)
<b>Transmit distance</b>	Indoors : up to 100 meters Outdoors : up to 300 meters
<b>Roaming</b>	Support multipoint auto roaming and configuration Support wireless network environments auto detect
<b>Antenna Type</b>	Dipole Antenna (1.8dBi)
<b>Power</b>	3.3V bus powered
<b>Media Access Protocol</b>	WMM
<b>Security</b>	WPA/WPA2; 64/128-bit WEP; TKIP/AES
<b>LED Indicators</b>	Link / Activity
<b>Operating System</b>	Windows 2000 / XP / 2003 / Vista / 7
<b>Operating Temp.</b>	0 °C ~ 40 °C
<b>Storage Temp.</b>	-20 °C ~ 80 °C
<b>Humidity</b>	10% ~ 95% (non-condensing)
<b>Dimension(L x W)</b>	123mm x 40mm
<b>Weight</b>	50g



## Chapter 6 Troubleshooting

This section provides solutions to problems that may occur during the installation and operation of AWD154B. Read the descriptions below to solve your problems.

### 1. The AWD154B does not work properly.

Turn off computer, and reinsert AWD154B into another PCI slot. Turn on the computer. Right click on My Computer and select Manage. Select the device manager and click on the Network Adapter. You will find AWD154B if it is installed successfully. If you see a yellow exclamation mark, hover over it with your mouse to see the status of AWD154B. If there is a yellow question mark, please check the following:

- Make sure that you have inserted the right adapter and installed the proper driver.
- Uninstall the driver software from your PC's Control Panel and device manager. Restart your PC and repeat the hardware and software installation as specified in this User Guide.
- If AWD154B does not function after attempting the above steps, make sure that your PC has a free IRQ (Interrupt Request). Make sure 'Plug N Play OS' is enabled in your mainboard's BIOS.

### 2. I cannot communicate with my router / or access the internet via Wireless

Make sure that the PC to which AWD154B is associated with is powered on. Make sure that AWD154B is connected to the correct "SSID" Network and with the correct security options & passkey as with the other computers in the Wireless Network. Kasperky and ZoneAlarm are known to have aggressive Network features. Ensure that your Internet Security software is not disabling use of your AWD154B by temporarily uninstalling your Internet Security software.

### 3. What should I do when the computer with AWD154B installed is unable to connect to the wireless network and/or the Internet?

- Check that the LED indicators for the broadband modem are on. If not, there may be a problem with the broadband connection.
- Check that the LED indicators on the wireless router are functioning properly. If not, check that the AC power and Ethernet cables are firmly connected.
- Try to power down both the router and the modem, and then power it back up after 10 seconds.
- Ensure you are not too far away from your router. Maximum indoor distance for G networks is 150ft. For N it is 450ft. Solid surfaces and local interferences can lower these numbers.
- Check that the Network Connection for the wireless computer is configured properly. If Security is enabled, make sure that the security passphrase is the same on both AWD154B and the access point (router)
- Some internet providers write their security passphrase underneath their routers. Check to see if there is a sticker stating your "Network Key" "WEP Key" or "WPA Key" underneath your router.

- You may need to refer to your router's manual if you have forgotten your security passphrase. Most router's manual are available for download online. Just type your router's model number followed by "manual download" into google.
- In some cases, resetting your router with your router's reset button and creating a new network SSID and passphrase will allow you to suddenly connect to your network.

#### **4. I can't find any wireless access point/wireless device in *Network* page**

- Click *Rescan* or *Refresh* for few more times and see if you can find any wireless access point or wireless device.
- Please move closer to any known wireless access point (router).
- Ensure your router is installed properly and not disabled by checking device manager and disabling your Internet Security software.
- If possible, please relocate your router to a more central location in your home or office and place it on the same floor as your wireless devices you wish to connect.

#### **5. Nothing happens when I click *Ralink config utility***

- Please make sure AWD154B is properly inserted into your computer's PCI port. If the Ralink configuration utility's icon is black, AWD154B is not detected by your computer.
- Reboot the computer and try again.
- Remove AWD154B and insert it into another PCI port.
- Uninstall the driver from Control Panel and re-install using the latest driver from our website. [www.aziocorp.com](http://www.aziocorp.com)

#### **6. I can not establish connection with a certain wireless access point**

- Remove prior wireless profiles, from Advanced Wireless Settings
- If the SSID of access point you wish to connect is hidden (nothing displayed in *SSID* field in *Network* tab), you have to input correct SSID of the access point you wish to connect.
- You have to input correct passphrase / security key to connect an access point with encryption.
- The access point you wish to connect may only allow network cards with specific MAC address to establish connection. Please go to *About* tab and write the value of *Phy\_Address* down, then present this value to the owner of access point to add the MAC address of your AWD154B to owner's access point's list.

#### **7. The network is slow / having problem when transferring large files**

- Move closer to the place where access point is located.
- Choose a Wireless Protection with less overhead like WPA2 PSK + AES
- There could be too much people using the same radio channel. Inside the access point setting page,, change the channel to a different number.
- Your internet service may be of the slower type, call your provider to see if you they can raise your speeds.

## Service & Warranty

### Service

If you need assistance with the product, please visit our website at [www.aziocorp.com](http://www.aziocorp.com) for frequently asked questions and troubleshooting tips. Otherwise, please contact our dedicated customer care team.

There are several ways to reach us:

By Phone: (866) 468-1198

By eMail: [support@aziocorp.com](mailto:support@aziocorp.com)

On Live Help: <http://www.aziocorp.com/support/helpdesk.htm>

### Warranty

#### **Limited Lifetime Warranty**

AZiO Corporation warrants only to the original purchaser of this product from an AZiO-authorized reseller or distributor that this product will be free from defects in material and workmanship under normal use and service for the life of the product. AZiO reserves the right, before having any obligation under this warranty, to inspect the damaged AZiO product, and all costs of shipping the AZiO product to AZiO for inspection shall be borne solely by the purchaser. In order to keep this warranty in effect, the product must have been handled appropriately and must not have been misused in any way. This warranty does not cover any damage due to accident, misuse, abuse or negligence. Please retain the dated sales receipt as evidence of the original purchaser & date of purchase. You will need it for any warranty service.

In order to claim under this warranty, Purchaser must make claim to AZiO within 60 days of occurrence, and must present acceptable proof of original ownership (such as original receipt) for the product. AZiO, at its option, shall repair or replace the defective unit covered by this warranty. This warranty is non-transferable and does not apply to any purchaser who bought the product from a reseller or distributor not authorized by AZiO, including but not limited to purchases from internet auction sites. This warranty does not affect any other legal rights you may have by operation of law. Contact AZiO at [support@aziocorp.com](mailto:support@aziocorp.com) or at one of the technical support numbers listed below for warranty service procedures.

#### **DISCLAIMER OF WARRANTY**

EXCEPT FOR THE WARRANTY PROVIDED HEREIN, TO THE EXTENT PERMITTED BY LAW, AZiO DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT THAT ANY IMPLIED WARRANTIES MAY NONETHELESS EXIST BY OPERATION OF LAW, ANY SUCH WARRANTIES ARE LIMITED TO THE DURATION OF THIS WARRANTY. SOME STATES/PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

**LIMITATION OF LIABILITY**

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